DOCUMENT RESUME

ED 405 824 IR 018 264

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TITLE Process and Facilities as Critical Success Factors in Training and Supporting Faculty To Use Multimedia/Computer Technologies.

PUB DATE 96

NOTE 5p.; In: Association of Small Computer Users in Education (ASCUE) Summer Conference Proceedings (29th, North Myrtle Beach, SC, June 9-13, 1996); see IR 018 247.

PUB TYPE Reports - Descriptive (141) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.

DESCRIPTORS *College Faculty; *Computer Assisted Instruction; *Computer Literacy; Computer Networks; Computer Uses in Education; Faculty Development; Higher Education; *Inservice Teacher Education; *Instructional Development; Instructional Materials; Material Development; *Multimedia Materials

IDENTIFIERS *City University of New York Coll of Staten Island; Technology Integration

ABSTRACT

As the College of Staten Island (New York) completes the installation phase of establishing the computer network and installing computers in most faculty offices and teaching laboratories, the priority activities have become faculty training and curriculum development. Members of the Pedagogy and Media Committee have coordinated campus-wide media-focused demonstrations and special events to promote faculty awareness and to create broader interest; they have sponsored hands-on workshops featuring elementary through advanced media technology applications. As faculty developed interest and expanded their proficiency in multimedia technology, various other catalytic events occurred on campus, which included computer laboratories going online for several academic departments; some faculty using programs they individually developed in their classroom instruction; and all faculty and staff and many students gaining access to electronic mail. To support faculty who use technology as a part of their regular classroom instruction, the college administration provided funding and space for a faculty center, located within the Library, which offers faculty access to a range of sophisticated software and equipment. Training needs of faculty were provided through a faculty-to-faculty mentoring program. The program features exposure to media/computer applications that underpin and enhance classroom instruction; its purpose is to provide a standard for quality control and strategies for the effective implementation of these instructional technologies. Faculty who are selected to participate in the program keep a log of their activities and are asked to make a presentation at the end of the semester. Preliminary evidence suggests that faculty interest in implementing educational technology in the classroom will remain strong. (AEF)

# Process and Facilities as Critical Success Factors in Training and Supporting Faculty to Use Multimedia/Computer Technologies

ED 405 824

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## Overview

The College of Staten Island recently relocated its facilities from two separate sites to a new, 204 acre campus. Through careful planning, we built a fiber optic infrastructure to provide campus-wide access to the computer network. The campus LAN connects approximately 2,400 computers and an integrated media information distribution system.

The integrated media information distribution system is state-of-the-art equipment that is located in the campus Library's Media Services Center. This facility serves as the hub for the distribution of digital information throughout the campus. The media distribution system allows faculty to integrate data, video, and voice transmission for presentation in more than forty-five classrooms and other specialty spaces such as conference rooms. Our system employs high speed transmission telephone lines to connect to a wide-area network with other City University of New York colleges that have similar systems and facilities to provide remote control and display of multimedia. This system also permits teleconferencing with limited two-way video, thus providing opportunities for participation in real-time inter-campus events. This connectivity allows the College of Staten Island to bridge as many as forty miles between the most distant CUNY college and itself in a way that is nearly transparent to the end-user.

We are now in our third year on the new Willowbrook campus. As we complete the installation phase of our project of establishing our computer network and installing computers in most faculty offices and teaching laboratories, the priority activities have become faculty training and curriculum development. These two important activities, despite the barrier of shoe-string

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funding, enjoy a high likelihood of success on our campus. This is due, in large part, to the role and energy of members of the campus Pedagogy and Media Committee.

**The Pedagogy and Media Committee**

Over the past four years, the College of Staten Island Pedagogy and Media Committee has grown from a few interested faculty to a core-group of about thirty. The focus of the committee meetings has been programs around media/computer technology themes. Presentations have been made by campus librarians, Office of Information Technology technical staff, students from the Computer Science Club, and vendors who have displayed new equipment and technology at presentations. Meetings have also featured the work-in-progress of various faculty who are using multimedia/computer technology in a classroom setting.

Members of the Pedagogy and Media Committee have creatively coordinated campus-wide media-focused demonstrations and special events to promote faculty awareness and to create broader interest. They have sponsored hands-on workshops featuring elementary through advanced media technology applications. For example, during the 1995 Fall Semester, the committee sponsored a Media Fair that was structured around five popular themes. Between mid-October to mid-November, demonstrations and high-participation workshops were held each Thursday afternoon. These programs are important to mention because each reached-out to a different faculty or student group interest. The program workshops were:

1. "Ride the Information Superhighway," a demonstration and workshop session for persons unfamiliar with using a web browser such as Netscape. The session featured the campus's World Wide Web HomePage (http://www.csi.cuny.edu).

2. "There's No Place Like HomePage," explored students tutoring students to create an interactive syllabus using HTML as part of an English class. Participants also gained information about how they could go about creating a homepage for their classes and departments.

3. "Building Digital Books" was an enormously popular and successful workshop that was conducted by member of the college's Computer Science Club. The workshop featured HTML authoring and how to write for the World Wide Web.

4. "CSI's Electronic Library" explored the changing nature of libraries from print to digital form. Workshop participants explored databases that are on the Library's CD-ROM tower and also explored connection to other libraries through HYTELNET on the World Wide Web (http://moondog.usask.ca:80/hytelnet/).

5. "Computers in Teaching and Learning" featured an art professor's use of computers to find the hidden geometry in painting and also an education professor's use of interactive multimedia as an element of a lesson plan.

Reflecting over past years, the College of Staten Island faculty and staff pursued technology-in-the-classroom as a hobby or personal initiative. This situation was similar at other CUNY colleges. However, an accelerated change began toward acceptance of classroom media/computer

technology when the University initiated a training program, along with a small-grant program for courseware development. These initiatives enabled faculty throughout CUNY to obtain necessary training from experts. It also provided a modest amount of money for release time to allow faculty from all CUNY colleges to concentrate their individual interests to learn multimedia applications and to explore the pedagogic use of the new technology. Out of these efforts, a nucleus of faculty emerged who returned to their home campuses with new technology for classroom instruction.

College of Staten Island faculty who attended these programs and who were otherwise involved with the technology began to work with other faculty. Through their pioneering efforts, more faculty began to understand the importance of digital information and the potential for multimedia-based instruction.

Concurrently as faculty were beginning to develop interest and expand their proficiency in multimedia technology, various other catalytic events occurred on campus. Three of these were that computer laboratories came online for several academic departments, a few faculty began to use programs that they individually developed in their classroom instruction, and all faculty and staff gained access to electronic mail. At a later time, a large number of students were provided with e-mail access. These events brought our academic community closer to electronic-based technology.

The campus teaching laboratories in various academic departments quickly became a success. These disciplines were Computer Science (authoring, animation), the History Department (American History), the Mathematics Department (remedial mathematics through calculus), the Modern Language Department (French and Spanish), and others. The individually developed faculty programs were in areas such as astronomy, English composition, and sociology instruction, among others. Students and other persons with physical challenges were also included in multimedia activities. This occurred last year when a specialty center came online, The College of Staten Island Multimedia Regional Center for Deaf and Hard of Hearing Students. For our students with visual impairments, we introduced audio-tactile tablets and raised line drawings to provide graphical information. This technology is used at the college for a multi-sensory calculus course. Substantial grants from the National Science Foundation (HRD-9450166 and MUL-12345) and the New York State Graduate Research Initiative provided equipment for developing a multimedia laboratory for undergraduate instruction. In addition, a small New York State VATEA Grant provided funds for a project titled, "Learning to Learn Multisensory Adaptive Peripherals for Teaching Computer Skills in an Electronic Classroom."

The success of teaching laboratories, coupled with the interest, energy, and enthusiasm of faculty for multimedia technology, confirmed the belief of the college's senior administrators about the emerging importance and pedagogic value of multimedia technology. They also saw the potential impact of it for student retention and recruitment. Out of this realization, the college began to provide additional structure through staffing and financial budget support for equipment and supplies.

To support faculty who are using technology as part of their regular classroom pedagogy, the college administration provided funding and space for a Faculty Center for Excellence in Pedagogy and Media Technologies. This site, located within the Library, offers faculty access to a range of sophisticated software and equipment. To support the training needs of faculty, members of the

Pedagogy and Media Committee volunteered to work in academic partnership with colleagues who were interested in exploring media technology for classroom instruction. This program came to be known as faculty-to-faculty mentoring.

**Impact of the Mentoring Program on Skill Development**

At the beginning of the 1996 Spring Semester, faculty were invited to apply for six positions that were made available as part of the faculty-to-faculty mentoring program. This type of peer training began this past May with the opening of the Faculty Center for Excellence in Pedagogy and Media Technologies. The thrust of the mentoring program is to provide hands-on experience and training for College of Staten Island full-time faculty in a variety of media/computer applications.

For a faculty member to be selected to participate in the program, the person must evidence interest and must be familiar with word processing. The program features exposure to media/computer applications that underpin and enhance classroom instruction. Its purpose is to provide a standard for quality control and strategies for the effective implementation of these instructional technologies. These are activities such as creating digital presentation materials, incorporating multi-media formats into pedagogic methodologies, using e-mail for electronic office hours to increase faculty/student contact and student/student learning opportunities, and homepage authoring for the Internet-based World Wide Web. Faculty who are selected to participate in the program keep a log of their activities and are asked to make a presentation to the Pedagogy and Media Committee at the end of the semester. The faculty members' experiences and logs will be expected to serve as source documents for formal evaluation of the faculty members' skill enhancements, the instructional materials created, and the overall contribution of the Faculty Center.

Faculty who have used the Faculty Center for Excellence in Pedagogy and Media Technologies have successfully explored media/computer activities such as those mentioned earlier. They have also explored and some have successfully incorporated the Internet's World Wide Web as an information enhancement for classroom use.

**Future Directions at the College of Staten Island**

Preliminary evidence from our successful experience with the Pedagogy and Media Committee and the Faculty Center gives us reason to believe that faculty interest will remain strong for implementing educational technology in the classroom. This interest will most likely follow two paths. The first is that a small number of faculty will develop sufficient skills and expertise to create instructional programs that will become models. The second path will find faculty who use the Center to master basic media/computer skills, thereby preparing themselves to effectively incorporate commercially produced multimedia materials in their instructional presentations.

Concurrently, the college plans to develop a video conferencing capability that will provide real-time connectivity for video, audio, and data sharing to similarly equipped CUNY colleges and other facilities throughout the world. This technology will allow us to access and transmit locally available multimedia resources that would not otherwise be easily accessible. This capability will allows the College of Staten Island to move beyond the classroom without walls to a global model for the dynamic dissemination of instruction and information.